# CLINICAL RECORDS.*

## II. BLANK FORMS.

By EUGENE S. KILGORE, M. D., San Francisco.

The most common fault which we have found with various hospital forms for clinical use is overcomplexity. It usually happens that the one who is planning a system of history sheets, in his zeal for thoroughness, feels a strong desire to set aside definite spaces for a large number of important facts which should appear in the history, physicial examination and laboratory notes; the impression being that printed headings will prevent things being forgotten and will make for completeness. It is our experience that printed headings and spaces for recording clinical facts are useful if they are limited in number and well chosen; but that it is very easy to get too many of them. Nurses and clinical clerks will not do thorough work merely because a certain number of blank spaces are before them to fill in; and unless other adequate forces are operating to promote enthusiastic and painstaking work, an elaborate system of headings and spaces, if it is heeded at all, inevitably leads to perfunctoriness. Moreover where there exists the intelligence and industry requisite for good clinical work and good records, printed forms and spaces if too extensive stand in the way. Elasticity is essential, and a good account of an illness or of abnormal physical findings as a rule cannot be "filled in" on a printed form. The principle is the same for clinical records in private practice, and we do not see how physicians who wish to keep careful records of their cases can get along with the case history forms which they are usually asked to buy—papers on which there is so much printing as to leave scarcely any room for writing.

In the University Hospital a compromise has been adopted between the type of record without headings and that with many headings. Plain ruled paper with binding margin and a narrow column for dates is used for the history and physical examinations and later notes, as well as for many of the laboratory reports, while printed forms are used for the title page, the graphic sheet, the treatment record, and the more routine laboratory procedures. There are good reasons, we believe, for printing a considerable number of items on the title page and the graphic chart.

I. *The title page* is shown in Figure 1. Most of the items are obvious, and only the following need be mentioned:

(a) *"Alternative spellings of name."* It has often happened that when a woman re-enters the hospital after changing her name by marriage the two records of her case are never connected. Also among certain classes it is not uncommon for a family name to be spelled in two or three different ways. It is important that such variations be made clear on the record so that cross reference filing cards will be properly filled out in the record room.

(b) *Address.* For the success of the follow-up system it is essential that the admitting clerk secure as carefully as possible addresses where it will probably be possible to reach the patient sometime hence. Addresses of friends should if possible be different from the patient's, and a business address of an employer is an advantage as well as the address of the patient's physician. These addresses are to be used later when letters to former patients are returned. Employers' addresses may also be useful in occupational investigations.

(c) *Race.* In order to make possible in future much more thorough researches in regard to race and disease, this item is amplified and a serious attempt is made to record accurately all the obtainable facts. Patients who cannot give the racial extraction of their parents are urged if possible to obtain the information from their families and to communicate it later for inclusion in the hospital records. Here it may be said that these items on the title page are not to be entrusted to nurses or interns to record. One person, who occupies a permanent clerical position in the hospital, should be responsible for the filling out of this title page for every case. When patients are admitted during the absence of this clerk from the office they are to be visited later and the admission data confirmed. Without such centralization of responsibility it is hopeless to get even names and addresses uniformly correct and legible. In order to inquire intelligently in regard to race the admitting clerk should refer frequently to a standard text on the subject.

For the same reason it would be an advantage to have a description of occupation and social data recorded by one person. This person would, of course, require special training, and until the hospital organization permits the employment of a social worker who can take this responsibility completely, these items have been included in the intern's history outline. (See previous article.[1])

(d) Considerable space is set aside for diagnoses, for the reason that many subsidiary diagnoses are recorded. (See article on Diagnosis Nomenclature by Dr. J. L. Whitney.[2]) The diagnoses are to be signed.

(e) The follow-up system for securing end results, to be most efficient, requires active co-operation between the clinical staff and those in the record room. Before patients leave the hospital they are to be made to understand our efforts to see them later, and the special advantage this will be to them as well as the advancement of medical science. Often the resident can make a definite appointment for the patient to see him at some time in the future; and this date and the doctor's name being written in the spaces indicated on the title page, the record clerks at the proper time will send a letter reminding the patient of his appointment with Dr. Blank. Follow up letters containing this personal element secure much better results. If the patient is not to return until after the staff has changed, it is advisable to write down for the benefit of the one who later sees the case the items particularly desirable for him to take note of.

One year is the usual time between the patient's

* Second article describing the clinical record system in the University of California Hospital. An article by Dr. J. L. Whitney and one by the writer on related subjects appeared in the Boston Medical and Surgical Journal of November 18, 1915. Reprints of the series when completed, together with record forms, etc., will be sent on request.

**UNIVERSITY OF CALIFORNIA HOSPITAL**

Doe, John Judson — 27 S C Med. — 9284
Name — Age S.M.W.Sep.Div. Ward Service Hospital Number

Judson-Doe — ¾ English & Dutch — Oct. 28, 1915
Maiden name or alternative spellings of name — Race of Father (fractional constituents if possible) — Date of admission ~~or transfer~~

London England — 4/4 English — Date of discharge or transfer
Birthplace — Race of Mother (fractional constituents if possible)

682 California St., San Francisco.
Permanent address

Geo. C. Molton (uncle) — 28-8th Ave, San Francisco.
Relative (what relation?) or friend most likely to have permanent address — Address (Different from patient's if possible)

H. A. Harris & Co. — 428 Mission St., S. F.
Relative or friend (Employer if possible) — Address

2834 — Dr. A. C. Smith
O. P. D. Number — By whom referred — Address

Admission diagnosis

Main Diagnosis and Complications. (For each diagnosis give condition when discharged, i. e. well, relieved, not relieved, not treated or dead.)

Rheumatic myocarditis — not relieved.
Broken compensation — well
Premature contractions

Coincident Diagnoses and Complications.

Varicose veins — not treated
with indolent ulcer of leg — relieved
Inguinal hernia — not treated

(For pre-operative and pre-autopsy diagnoses see special sheets. These diagnoses are final.) — Signed

Oct. 28 1916. Dr. resident — General condition.
Date to report — Whom to see — Items particularly desirable to include in subsequent reports

Surg. 1965 Med. 2817.
Former Admissions: (Services and numbers)

Subsequent Admissions: (Services and numbers) — Transfer

**BLOOD**

| Date | %Hb. (Instrument = ) | R. B. C. | W. B. C. | Differential: Neutrophiles | Eosinophiles | Basophiles | Lymphocytes | Large Mono. and Transit. | Myelocytes | No. Cells counted | Parasites | REMARKS (Record if reds are abnormal, if platelets seem increased or diminished, etc.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oct. 28 | 75 | 4,560,000 | 7000 | 62 | 2 | 0 | 30 | 6 | | 200 | 0 | Slight achlorus. |
| | | | | | | | | | | | | |

**URINE**

| Date of voiding single spec. or of beginning to collect 24 hr. sp. | Amt. (c.c.) | Sp. Gr. 1000 and | Reaction | Albumin % * | Sugar % † | Microscopical | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Casts | Cells | |
| Oct. 29 ss | | 20 | ac. | S.T. | 0 | | | few hyal. | few leuc. | |
| | | | | | | | | | | |

*Qual. meth. = Nitric acid. Quant. = ..... †Qual. meth. = Fehling's Quant. = .....

Fig. 1. The title page.

discharge and the first attempt to get a report. But in many cases it is desirable to see them earlier; for example, a benzol treated case of leukemia should return for frequent blood examinations; a syphilitic should return in a short time for another Wassermann test; a patient who has had an abdominal exploration which did not satisfactorily explain his pain should be followed more closely than once a year.

Naturally there is a limit to the number of cases

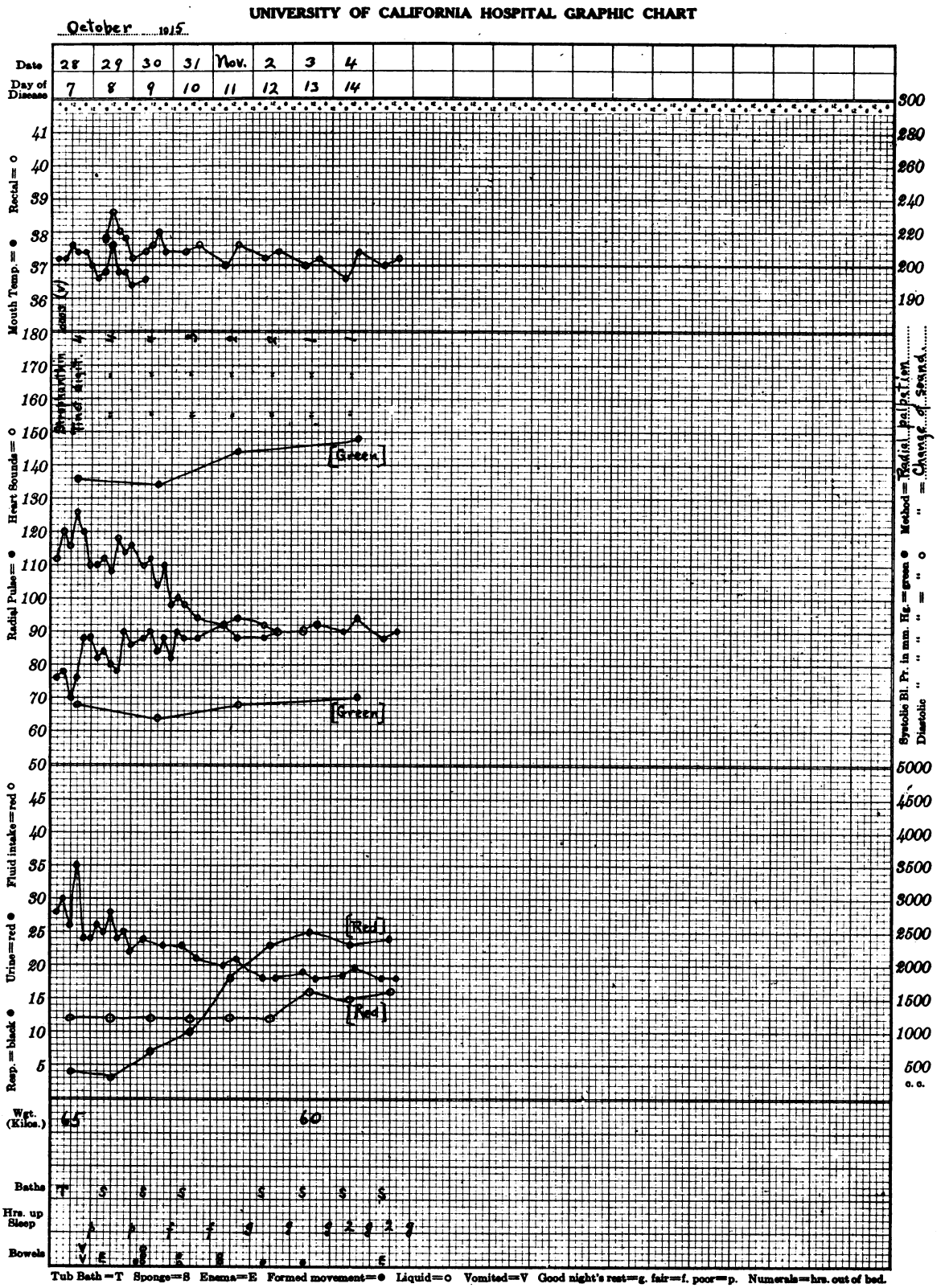


Fig. 2. The graphic chart.

**UNIVERSITY OF CALIFORNIA HOSPITAL**

*Name* ..... *Ward* ..... *Bed* ..... *Hospital Number* .....

**BLOOD**

| Date | % Hb. (Instrument = ) | R.B.C. | W.B.C. | Differential: Neutrophiles | Eosinophiles | Basophiles | Lymphocytes | Large Mono. and Transit. | Myelocytes | No. counted | Parasites | Remarks (Record if reds are abnormal, if platelets seem increased or diminished, etc.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |

**URINE**

| Date of voiding single spec. or of *beginning to collect* 24 hour spec. | Amt. (c.c.) | Sp. Gr. 1000 and | Reaction | Albumin % * | Sugar % † | | | Microscopical: Casts | Cells | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

* Qual. meth.—..... Quant.=..... † Qual. meth.=..... Quant.=.....

**SPUTUM**

| Date | Character | Tubercle Bacilli | Other Organisms | Cells, Elastic Fibers, Crystals, etc. |
|---|---|---|---|---|
| | | | | |

**FECES**

| Date | Character | Blood: Exam. | Blood: Qual. | Fat | Parasites or Ova | Bacteria | Other |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**UNIVERSITY OF CALIFORNIA HOSPITAL**

**TREATMENT RECORD**

*Name* ..... *Ward* ..... *Bed* ..... *Hospital Number* .....

| Date | Order | P.R.N. | Nurses' Remarks |
|---|---|---|---|
| | | | |

**UNIVERSITY OF CALIFORNIA HOSPITAL**

**DIET RECORD**

Name ..... Ward ..... Bed ..... Hospital number .....

| Date | Hour | Article | *Grams Total | Grams: Proteid | Carbohyd | Fats | Salts | Fluids | Calories | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

* Figures obtained by weighing of food actually eaten are checked.

**Fig. 3. Blanks for laboratory reports, diet and treatment record.**

that can be seen frequently by the house staff, and the great majority of patients discharged will, of course, make their later visits to the Out-Patient Department. By keeping in mind the needs of the house records the Out-Patient Staff can render valuable assistance by sending in to the record room notes of interesting developments in cases seen by them that have been in the house. The rush of an out-patient clinic will not permit this unless it is made easy for them, and we have adopted the plan of having blanks for the purpose in each clinic, which can be filled out and collected with the out-patient cards. If the out-patient man has barely time enough to write the patient's number and the date on one of these blanks the record clerks will later collect it, will look up the out-patient note for that day and transcribe it to the house record. It must be admitted that an out-patient staff will not supply a great deal of this data without pretty persistent prodding.

The follow-up system will be mentioned again in connection with the work of the record room.

(f) The references to former and subsequent admissions and transfers make it easy to find the complete record of a case which may be bound in several different volumes.

(g) Spaces for two each of blood and urine examinations are provided here merely to save the extra laboratory page in the many cases which do not have more examinations made. While striving for completeness, a scarcely less important item in promoting actual usefulness of the records is compactness and the avoidance of too many sheets. Economy in paper, printing, binding and fireproof storage are also favored by condensation. It is economy to buy a good grade of paper for the history and printed forms and to use both sides of it.

II. *The graphic chart* (Fig. 2) is lithographed on the back of the title sheet. (Charts with blank backs are provided for continuing the graphic records after the first one has been used up.) Lithographing produces much finer and more accurate lines than ordinary ruling and, considering the

number of lines here desired, it has been found practically no more expensive.

The chart as here presented is the result of numerous attempts to concentrate so far as is consistent with clearness and accuracy a large amount of clinical data where it can be taken in at a glance and compared. Ordinarily there are seven graphic curves on the chart,—temperature, pulse, respiration, systolic and diastolic blood pressure, fluid intake and urine excretion. These curves are distinct when green dots are used for systolic blood pressure, green circles for diastolic, red dots for urine and red circles for fluids. Black circles instead of dots are used for stethoscopic counts of heart rate and for rectal temperatures. On the right the method employed in taking blood pressures is recorded in each case. At the bottom are spaces for recording patients' weights, baths, solid or liquid bowel movements, vomiting, quality of night's sleep and hours out of bed. One or two blank columns are reserved for special items such as repeated measurements of lung capacity, strength tests, urea content of blood, etc., which it is desired to show in connection with the other data on the chart.

The chart is divided into spaces for twenty-one days which allows about the ordinary daily space for a "b. i. d." graphic chart. By fine vertical lines, however, each daily space is subdivided into six small spaces of a little over one millimeter each, which represent four-hour periods. Nurses use moderate sized dots and place them accurately on these fine lines, the hours to which they correspond being printed at the top of the chart. It is thus possible in fever cases to use the chart for four-hourly records without increasing the space ordinarily allowed for the twice-a-day record. The sense of proportion on the chart is thereby preserved and in cases of great duration the four-hour record can be preserved in toto. Such charts are pasted together end to end and folded; vertical red lines separating weeks are a convenience.

Nurses who are used to inscribing large dots far apart object to this careful work at first. Once accustomed to it, however, they are invariably pleased, are more painstaking, make very much better looking charts than formerly, and have to recopy them less often.

In the occasional case when temperatures are taken oftener than every four hours, the numbers at the top representing hours are crossed out and replaced by others, two or more large spaces being used for one day.

III. *The Laboratory Sheet* (Fig. 3, first four forms). The advisability of using such a sheet is debatable, and some of the hospital staff would prefer to have urine aud blood as well as all other examinations entered in chronological order with other clinical notes. The advantage of the blank, however, is appreciated in cases where many examinations of one kind are made; it being much easier to run the eye down a column containing a dozen reports of hemoglobin or albumin percentages or guaiac tests than to hunt in a dozen different places for those results. For this reason we use a laboratory sheet for reporting the three or four examinations most likely to be often repeated. On one side blood and urine are each given space for twelve reports, on the other are reports of sputum and feces. To guard against incompleteness, which is the principal danger in the use of printed forms, provision is made for recording such additional facts as (1) the instrument used for measuring hemoglobin, (2) number of cells on which the differential leucocyte count is based, (3) more accurate specification of the dates of urine specimens, (4) methods used for qualitative testing and quantitative determination of albumin and sugar, (5) methods used in testing for occult blood. When more space is required, as in describing an abnormal blood smear, more lines are used, or reference is made to an extended description in the body of the record.

Diabetics and special blood cases are given charts for showing graphically their progress; and blank paper suitable for charting is kept for miscellaneous charts, e. g., salt excretion, etc.

IV. *The Order Sheet* (Fifth form in Fig. 3,—same ruling on both sides of sheet). Orders for all medicines and treatments are written by the house staff on one of these sheets separately for each patient; thus giving a permanent treatment record in the physician's own hand to be bound with the history. Nurses check orders when they have taken cognizance of them, and in the case of single doses or treatments give the time when they are administered. Other remarks sometimes entered are "refused," "vomited," etc. "P. r. n." orders are each designated by a letter placed in a column for that purpose; and whenever such an order is used by the nurse she makes a record of the fact by writing on this order sheet the designating letter and the time. Nurses rule a vertical line through all orders that are finished, so that the eye can take in at once the "live" orders, and there is no necessity for keeping a separate list of standing orders. Except in the occasional case of verbal orders at night, which should be signed in the morning, nurses are to be strictly forbidden to fill orders which are not written on the order sheet.

When these sheets first replaced the customary ward order book fears were expressed that orders would be overlooked by nurses. To obviate this, interns whenever entering an order write also the patient's bed number on a pad for the purpose on the nurses' desk. During our three years' experience with individual order sheets we have not once heard complaint of orders being missed from this cause.

V. *The Diet Record sheet* is ruled on both sides in the manner shown by the bottom form in Fig. 3. It is used for cases of diabetes and others in which it is desired to keep accurate records of food intake. Nurses weigh separate articles of food while serving them on the same plate, using the convenient little Chatillon scales for the purpose.

In addition to these five forms two others of great importance in the cases which require them

are the operation record and the sheet for clinical and autopsy diagnoses.

The operation report provides several lines at the top for pre-operative diagnoses and signatures. Members of the surgical, as well as other staffs who study cases before operation, are to write their diagnoses over their own signatures before operation. For example the medical service will keep these blanks on hand, and before transferring a patient to surgery will write their diagnoses and send this sheet with the patient to the surgical ward. A chart is then provided on this sheet for recording pulse, respiration, blood pressure, etc., during anesthesia; the usual facts in regard to the amount of anesthetic used, time of beginning, duration of operation, etc., are recorded in connection with this chart. Then follows space for notes on the recovery—pain, vomiting, etc. The back of the chart is for a description of the operation, the only definite spaces set off being one for description of organs explored during the course of the operation and one for recording the names of the operating crew including nurses.

The clinical and autopsy diagnosis blank is an important means of securing definite correlation between clinical and autopsy findings devised by my colleague, Dr. J. L. Whitney. The feature about it which makes it actually secure the hitherto elusive *written* pre-autopsy diagnoses by the clinicians is the permit for autopsy which is on the sheet. The superintendent does not sign this permit until the sheet is presented to him properly filled out with the clinical diagnosis in great detail and a short résumé of the essential features of the case for the benefit of the pathologist. The pathologic diagnoses are later typewritten under the clinical diagnoses (both of these on the front of the sheet) and the pathologist marks the clinical diagnoses which were found to be correct, those wrong, those doubtful, and the autopsy diagnoses missed by the clinicians. On the back of the sheet beneath the clinical résumé the pathologist makes remarks on any of the clinical findings which did not find satisfactory explanation in his autopsy diagnoses. This sheet is bound with the clinical records.

**References.**

1 Kilgore, E. S.: Last number of this Journal.
2 Whitney, J. L.: Boston Medical and Surgical Journal, November 18, 1915.

## THE APPLICATION OF ANOCI ASSOCIATION TO OBSTETRICS.*

By CARL L. HOAG, M.D., San Francisco.

The present furor about "twilight sleep" has brought great pressure to bear upon the conscientious physician who does not feel justified in using a procedure which entails such risks. Recognizing the general demand for the more extended use of anesthetics in labor, he will doubtless welcome any method which secures this end without too much danger to mother or child. This consideration has prompted me to report the following procedure without awaiting the accumulation of a large number of cases. As will be seen, the method is not new in itself but is the application of a now well accepted principle to this new field of obstetrics.

Three years of trial in the surgical field has firmly established the efficiency of anoci association in the reduction of shock and distress, with a corresponding decrease in the time of convalescence. It has already done much in removing the fear of operative procedure from the lay mind. The principle objection has come from the surgeon because muscular relaxation under nitrous-oxide-oxygen anesthesia is very much less complete than that previously secured by the use of chloroform or ether. Only those have achieved the best results who have fully realized that the nerve blocking accompanying this light anesthetic must be fully as complete as that necessary for operations under local anesthesia alone.

During the past year nitrous-oxide-oxygen analgesia has been used in obstetrics by a number of men—notably Webster [1] and Lynch [2] of Chicago—with marked success. No untoward effects have been noted on either mother or child. Lynch states that uterine contractions are usually increased. He makes no statement, however, as to the degree of relaxation of the perineum as compared to that usually secured when chloroform is used. If there be any serious objections to the use of nitrous-oxide-oxygen anesthesia in labor it will probably arise at this point. After our experiences in abdominal surgery we cannot expect to see that relaxation of the vaginal outlet which is so essential in preventing severe lacerations. It occurred to me that the same cocainization of the muscles which brings about adequate relaxation of the abdominal wall when anoci association is well carried out should not only overcome this objection but might bring about a distinct advance in obstetric practice. Just as the local anesthesia has made the use of gas-oxygen possible in surgery, the same procedure may make it the anesthetic of choice in labor.

The following case will illustrate the feasibility and distinct advantages of this method:

Mrs. T., aged 22, primipara, confined April 11, 1915, when three weeks overdue. She was a well developed, well nourished woman and labor progressed normally; first stage nine hours, second stage forty-five minutes. Toward the end of the first stage nitrous-oxid and oxygen analgesia was begun by Dr. Harry Tuckey, using a new Teter apparatus. The gas was shut off between the bag and nose piece between pains, so little was lost. Experiencing no pain, the patient worked very well and absolutely at my direction. Just before the head began to dilate the perineum, I turned back the vulval edges and injected the levator ani muscles and perineal body very thoroughly with one-half of one per cent. novocaine. About 20-30 c.c. were used. The effect was striking. The outlet soon relaxed and became very flabby, and when distended by the oncoming head (R. O. A.) dilated readily without the least sense of pain or the increased effort on the part of the patient that we usually see. The head was delivered as easily as if she had been under the surgical degree of chloroform, and without other than a small mucous laceration. The oxygen was then immediately turned on and, as the cord was still pulsating, the baby—then slightly cyanotic—cleared up like magic, became very red and began

* Read before the Pan-American Medical Congress, June 18, 1915.